Innovation failure in the eye of the beholder:Towards a theory of innovation shaped by competing agendas within higher education

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Abstract

This paper examines a case of perceived innovation failure in higher education, a service dominated by conflicting institutional logics of professionalism and markets. Through a mixed methodology investigating student attitudes to, and behaviour around, technological innovation, the paper makes a contribution to the public service innovation literature by focusing on duality in innovation outcomes. This is suggestive of an innovation typology in public services: professionalism-driven and consumerism-driven innovation.

Keywords:

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Introduction

The notion of public service innovation has entered the traditional public administration literature in response to a quest for public service sustainability (Osborne et al. 2015). In the light of increased scarcity of resources in the sector, doing more with less poses indeed an opportunity for creativity in terms of looking at what we do differently, as well as of identifying newer, more effective products or services, using technological advances more effectively, streamlining processes and so on. These are characteristics linked to the strains of innovation identified by Vries and colleagues (2014): process innovation (1), product or service innovation (2), governance innovation (3) and conceptual innovation (4). Our interest in this paper falls under 'process innovation', in particular 'technological process innovation' (Edquist et al. 2001, Damanpour and Gopalakrishan 2001) - the use of new technologies for the purpose of public service delivery and associated outcomes. Our aim is to enhance understanding of the impact of innovation on divergent public service outcomes.

The contribution of the paper is therefore to public administration debates around public service innovation and innovation outcomes. These debates include recent contributions in this journal to do with the complexity of innovation and its relation to innovation outcomes (Torugsa and Arunde 2016), innovation fits and misfits in respect to organisational value (Buuren, Eshuis and Bressers 2013), the impact of innovation on health care (Cucciniello and Nasi 2014), and on public procurement (Knutsson and Thomasson 2014). The treatment of innovation in this body of literature is illustrative of a fascination with the concept of innovation among public administration scholars, reflected in the attention given to overwhelmingly positive aspects of innovation. Even Torugsa and Arundel's (2016) account of complex innovation, which they admit to carry a high risk of failure, did not actually identify failure as an outcome but, rather, observed the effect of complex innovation on a variety of positive outcomes. As such, many have come to consider innovation as a goal in itself, missing out on issues around innovation impact on public service outcomes, particularly where such outcomes could be negative –in their recent reviews, de Vries (de Vries et al. 2014) and Voorberg (Voorberg et al. 2014) identified innovation failure an important gap in the literature.

Our study addresses this gap and contributes to these conversations by providing evidence of outcome duality of our higher education innovation, suggestive of a two-way typology of innovation corresponding to a duality of interests: professionals' and consumers' (Laing 2003), further corresponding to conflicting institutional logics: 'professionalism' and 'markets' (Thornton et al. 2012, Van den Broek et al. 2014).

The role of innovation in public services

The definitional terrain of innovation can be split into two key characteristics: discontinuity from the past and perceived novelty related to first time usage in an organisation. Some authors further differentiate these two characteristics (Mack et al. 2008, Bhatti et al. 2011) while others see them as integrated (e.g. Rogers 2003, Salge and Vera 2012). We take the latter position in this paper. First time usage of an idea in an organisation relates the novelty aspect of the innovation to the context in which it is introduced (Rogers 2003).

Some studies seem to overlook the importance of differentiating innovation from change (see Osborne and Brown 2005; de Vries et al. 2014), sometimes referred to as the dichotomy between incremental and systemic innovation (Albury 2005), although some changes can be classed as innovations (Kuipers et al. 2014). Radical innovation represents the development of new services or a fundamentally new way of organising and delivering a service (idem.). Similarly, systemic or 'disruptive' innovation is based on the development of new underpinning technologies or organizational forms (idem.). Incremental product or service innovation refers to the small changes and helps improve performance, lower costs, and enhance desirability. Most public service innovations are not radical but are important changes consisting of relatively minor adaptations to existing services or processes (Albury 2005).

Despite a prevailing view in the literature that innovation is generally desirable, only about 20 percent of innovations are viable and sustainable (Van der Panne et al. 2003). This brings to the forefront the importance of innovation outcomes, especially innovation failure which has not been widely discussed in the literature. One explanation for this apparent gap could arguably be the initial scholarly enthusiasm for innovation being followed closely by discussions of multi-

dimensionality (Borins 2001, Hartley 2005) and complexity of innovation in public organisations (Torugsa and Arundel 2016) which suggest that failure and success might be conflated due to the fact that often in the public sector innovation is not simple, not of one type, but of many. Indeed complex innovation can incorporate more than one innovation type (Torugsa and Arundel 2016) –so for example it can be both process, technological, administrative and conceptual, all at once- and can be characterized by non-linear processes and feedback cycles, a perception of uncertainty and the fear of potential failure (Gopalakrishnan and Bierly 2001, Torugsa and Arundel 2016). As complex innovations involve multiple dimensions and affect multiple stakeholders, they should result in a greater variety of different types of outcomes that would show that complex innovations have a greater variety of large benefits on various performance management indicators than the simple innovations (Torugsa and Arundel 2016). Evidently, the focus is still on positive outcomes for innovation.

Another possible explanation for the lack of focus on 'innovation failure' is that authors may have anchored their research on either 'product' or 'service' dominant logic but did not necessarily consider both in relation to the same service. 'Product dominant logic' is concerned with product development rather than the way in which the product reaches consumers. As such, it perceives 'quality' to be associated with the product characteristics rather than with the non-tangible needs it fulfils. Awareness of complexity in public services brought about a change of approach from the product-dominant logic which was the model initially adopted in the context of New Public Management (NPM) and targeted at achieving competitive advantage. The shift was towards a service-dominant logic which is more interested in 'value' and has co-production at its heart. Hence, the future of innovation in the public sector was thought to rely not on efficiency efforts alone, but also on co-production, paramount in delivering sustainable innovations in complex public service systems (Osborne et al. 2015). Indeed, one can barely imagine value in a public service in which the consumer does not have a pivotal role –think of the patient required to take the medicine prescribed by their doctor, and then of the student required to study the materials suggested in class. It can only make sense that innovation will employ some sort of cooperation with the consumers of the service in designing or redesigning a service. There are various ways of involving consumers in

decisions around innovative practices, and these ways range from sporadic consumer evaluations of the service, consultations, to co-production (idem). The actual ways in which organisations engage with their client groups depends largely on the type or organization and on the service provided (Laing, 2003).

This paper draws evidence from the evaluation of a technological process innovation to do with assessment and feedback in a large higher education institution. This was a simple, rather than complex innovation, as it was straight-forward to understand and implement and there were no barriers to its adoption (in fact it was supported immediately), as there would be for complex innovations, according to Torugsa and Arundel's (2016) coverage of the concept. In terms of the initiative for it, it came from a concern with historically low satisfaction scores for 'assessment and feedback' expressed by students in nation-wide (e.g. UK NSS -National Student Survey) and university-run student evaluation of courses.

Setting the stage: innovation in higher education

Higher education is a public service where the role of the student has transformed from user to consumer in the last two decades (McCulloch, 2009). The purpose of higher education has conventionally been to improve citizenship -yet with the marketization of higher education, consumerism has given students a particular type of 'voice' (idem.), fuelling initiatives aimed at improving the student experience. However, there are fears that, at the same time as students are becoming consumers of the service, their role as co-creators of learning is decreasing (McMillan and Cheney 1996; McCulloch 2009). Simultaneously, as part of the same market-led trend of 'doing more with less' while at the same time satisfying consumers and increasing the transparency required to offer them choice, the pressures on academic professionals have increased through tighter managerial control (idem.).

Like many other public services, notably social services and health, the demand for higher education is ever growing while at the same time the resources to meet such demands are decreasing (Melo et al. 2010). Practicality met ideology in much of the neo-liberal reforms of the 1980s and 1990s across the globe, bringing in market forces and market-driven mind sets into academia alongside other public services. The contextual paradigm which encompasses such conceptualizations is that

of managerialism (Miller 1995) in the public sector (often discussed in relation to NPM). Indeed, with the new public management reforms in Britain (echoed and preceded by similar reforms elsewhere as close as Europe and as far as Australia, the US and Canada), business techniques started being imported in education (Gruening 2001). These changes went further than affecting organisational processes (such as performance management, etc.) to commodifying the service itself (Sadler 2011).

Once reliant on some sort of state funding, even in countries with limited tradition in such models of government grant giving (e.g. US), higher education has increasingly become a service for which students are being charged (Hensley, et al. 2013). This has not yet affected higher education in all OECD countries, but in most we can now see some sort of fee being paid by students either directly or through bank or state loans. While the move was defended by prominent economists, such as Milton Friedman (Friedman 1995), its impact on the service has numerous critics. In various ways, these warned of the dangers of commodification in terms of altering social relationships by replacing subjective economic value with objective value in the spirit of 'market triumphalism' (Sandel 2012, p. 7). The consequence of this important development is here to stay despite formal decline of the NPM paradigm. As higher education continues to be a public service with public values at its core, it therefore becomes the battleground for 'incompatible prescriptions from multiple institutional logics' (Greenwood et al. 2011, pp.318) –two in particular, 'markets' and 'professionalism' (e.g. Thornton et al. 2012, Van den Broek et al. 2014). These 'logics' are paradigms which form institutional contexts which 'both regularize behavior and provides opportunity for agency and change' (Thornton and Ocasio, 2008) and indeed higher education looks very different through the lenses of 'professionalism' where professional judgement is dominant, compared to those of the 'markets' maximizing consumer voice.

If we are to accept that enhanced student voice is inherent to service commodification, we must also accept the logic behind the use and increased importance of formal systems through which that voice is captured -for example the National Student Survey (NSS) in the UK and Australia, or the National Survey of Student Engagement (NSSE) in the US, to name but a couple. One area of concern, hence one innovation target, emerging from these evaluation systems, has been around feedback practices, consistently deficient, in students' view, when compared

to the other evaluation items in the said surveys. Central to our understanding of feedback is the work of Nicol and Macfarlane-Dick (2006) who maintain that anyone can be an effective learner through self-regulation (Pintrich and Zusho 2002) and that their ability to be so depends on the quality of the feedback received.

Students' poor evaluation of their feedback is significant to higher education professionals in two ways: first, because it highlights a barrier to learning, of which professionals ought to take note, and secondly, because it is mirrored in students' dissatisfaction with the overall learning experience (see for example Eom et al. 2006) which is of central concern to service providers, whether these are seen to be the front line professionals (i.e. the teaching staff) or the university management. Hence action by innovating in assessment and feedback seems like a worthwhile pursuit (e.g. McDowell 1995). In doing so, however, we need to reflect on where the real issue lies: is to do with the way in which feedback is understood and internalised (see Nicol and Macfarlane-Dick's (2006) arguments around self-regulated learning), or with wider conceptualizations of students and of higher education professionals from different institutional logics?

It takes two to tangle: consumers and professionals in higher education

There are numerous actors involved in higher education service design and delivery. Most of these actors are behind 'the line of visibility' of Radnor's and colleagues' (2014) 'service blueprinting' framework. On the line of visibility and indeed at the interface between service production and service consumption is the interaction between students on the one hand, and higher education professionals involved in designing and teaching in degree programmes, on the other hand. Laing (2003) identifies these two stakeholders' groups as essential to the service when he distinguishes between public services on the basis of the relative influence of one group over the other (see Figure 1).

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Figure 1. The public services spectrum *(Source: Laing, 2003)*

This spectrum differentiates professional judgement dominant services, such as criminal justice, from consumer-dominant services, such as public transport. Thus,

professionals delivering social benefits dominant services have far more expertise and understanding of the service than their clients do, whereas the opposite may be true for private benefits dominant services. Therefore, quality assurance tools such as user satisfaction surveys make more sense for the latter, than for the former, category of services. In consequence, there is differential dominance at the opposite sides of the spectrum, of professional judgement on the left side of the continuum and of consumer judgement, on the right side of it. Higher education can be argued to be in the middle of the range, which means that it can be seen from either lens. It also means that it is susceptible to change in either direction. For example, NPM reforms arguably pulled the service towards the right side of the spectrum (towards consumerism), whereas, many of the characteristics of higher education offer opponents of managerialism arguments in support of the opposite direction (towards professionalism).

The two directions are suggestive of the conflicting institutional orders of markets and of professions, two dominant institutional logics (e.g. Greenwood et al. 2010, Thornton et al. 2012) which cause organisational practices (idem.) to oscillate between 'business like managerialism' driven by consumers and 'traditional professional values' driven by professionals (Noordengraaf 2007). Recent contributions to this journal (e.g. Van den Broek et al. 2014, Bode et al. 2016, Noordengraaf et al. 2016) discussed these institutional orders in relation to health - which Laing (2003) places in the middle of his spectrum, alongside education (and, by association, higher education). Specifically in terms of innovation, Van den Broek and colleagues (2014) found the duality of institutional logics in health to complicate innovation adoption and implementation. Bode's and colleagues' (2016) findings are similar in disclosing 'incompatible prescriptions' which affects service improvement. Our investigation of the higher education adds weight to such arguments of incompatibility in the two agendas, that of consumers and that of professionals in services like higher education, and extends the research on innovation by arguing that these competing agendas are reflected in service innovation.

Consumers in HE: the students

The two logics of 'markets' and 'professions' are evident in the ways in which service users are referred to -as 'consumers', 'customers', or 'citizens'. Each of these terms has its own underlying assumptions about how public service delivery can be understood and evaluated by the public (McLaughlin 2009).

The term 'consumer' in the public service discourse assumes that the 'service' is little more than a product which is to be 'consumed' at the point of delivery (McDonald 2006). The use of the term 'customer' takes this assumption significantly further; this is alluding to the marketization of the public services (Laing, 2003), where customers' wishes become a priority. 'Customer' emphasises the customers' rights and choice (although legislation most often calls these as 'consumer rights'), offering service users exit routes where their expectations are not met. This is of course unrealistic with many public services, where choice is relatively rare (e.g. Flynn 2007), particularly for professional-judgement dominant services. Mid-spectrum services (e.g. health and education) offer users some choice of providers, albeit differently in different countries. Overall, public service users enjoy limited choice in comparison to private sector, because the public sector is responsible for a wider population, the 'citizens', and, in turn, these are mutually responsible for general and fair access to public services. The emphasis on responsibility and duty entailed by the 'citizen' label (Trentmann 2007) becomes clearer if we accept that public housing tenants need to compromise on comfort, compared to their private tenants counterparts, in order to make the service available for more eligible tenants. In this sense, public housing tenants are sharing the duty of care, the responsibility, towards vulnerable people with the state. This is in stark contrast to the right to quality accommodation which private tenants enjoy commensurate with their ability to pay for it. Higher education being a more social-benefit dominant service than housing means that students have even less choice than public housing tenants, and the compromise on grounds of equity to others is more inherent to higher education than it is to housing.

Each of these labels is contested (Sadler 2011) and assumes certain characteristics of public service providers and recipients, as well as of the service itself, but some seem more 'neutral' than others. Notably 'service users' and 'consumers' appear to be the least contentious of the 'labels'; while 'customers' and 'citizens' contain rather bold assumptions, the former, of service marketization, the latter, of responsibility and participation. Arguably, the 'customer' and 'citizen'

concepts belong to polar opposite domains and could be seen as corresponding to Laing's (2003) spectrum extremes: 'citizen' would be appropriate in conceptualising the users of social benefits dominant services such as criminal justice, whereas 'customer' would best describe the users of private benefits dominant services such as transport (see Fig 1). They can both be applied in mid-range services such as higher education.

Students studying towards their degrees are not the only consumers (for lack of a better 'neutral' term) of higher education, but they are the central ones. Their centrality is in their numbers (they are by far the largest stakeholders' group), as well as in the funding they contribute to higher education (Melo et al. 2010). Institutional reputation is therefore important (McLaren 2002): as university enrolment rates are ever higher and entry requirements, less stringent; universities face greater competition for students and, implicitly, for public funding which is normally linked to quantitative outputs such as student numbers and student retention (Sadler 2011). As students have choice of universities, universities compete on the basis of students' satisfaction scores (expressed in systems such as NSS and NSSE), much to the worry of critics seeing this trend as incompatible with professional concerns for student attainment (Mark 2013).

Professionals in higher education

Student attainment is at the heart of the 'technical quality' of the service in higher education and that makes it a core concern for professional logic (Kitchener 2002), and, as deep learning often entails cognitive discomfort, it is entirely compatible with student dissatisfaction. And much as student satisfaction is important to institutional reputation and, consequently, to universities' income streams, it is difficult to consider the service legitimate if there are doubts over whether the methods of teaching, assessment and feedback are conducive to attainment. Indeed, Greenwood and colleagues (2011) warned that legitimacy is at stake when reconciling professional and business goals in organisations where multiple institutional logics coexist.

We argued earlier that the markets institutional logic lead to a decline in professionalism in public services (e.g. Denhardt and Denhardt, 2000, Mark 2013) through its pursuit of quality measures which put 'satisfaction' at the core of the service. At the same time, however, professionals still have considerable power over service users through the 'moral work' (Katz 1984, Hansenfeld 2000) they undertake as part of their role. From cases where this power is perceived to have been abused (e.g. Groundwater-Smith and Sachs 2002), the 'markets' logic derived a counter-argument to the desirability of professional power: professional entitlement (Chaston 2011). The sociology of professions provides some insights in this respect in that the public sector is inhabited by long-established professions which retain monopoly on expertise which is protected by means of long socialisation processes (via for example training, internship periods and life-long education –see Goode 1957). They have also had time and historic opportunities to secure a quasi-separation from both lay people and other professional communities (Goode 1957, Ackroyd 1996). This 'occupational double closure' (Ackroyd 1996) is, in essence, a double ideological separation of professions from 'others', both inside and outside the organisation. In other words, professionals such as those working in higher education have long invested in separating themselves from the users of the service provided; arguably this could contribute to losing sight of the fact that public services are highly dependent on the latter's input.

If advocates of co-production maintain that it is indispensable to effective public services (e.g. Osborne et al. 2016), others (e.g. Laing 2003, Mark 2013) argue that some services are rightfully dominated by the dichotomy between professionals and consumers. Consequently, innovation in such services –e.g. higher education, health- is likely to work differently than in services where the two sets of interests are more aligned.

Methodology

Our study was conducted in a UK Russell Group higher education institution and it focused on a simple technological process innovation. It consisted of the provision of feedback to students in the form of a digital video (mp4) with extended voice-over commentary from the course coordinator and visual cues intended to help

students match the comments to their submission. In line with Radnor's and colleagues' (2014) notion of 'service blueprinting', the innovative intervention was co-produced by the course coordinator producing the feedback and the students affected by it and, in Osborne and Strokosch's typology of coproduction (2013), it emerged from 'consumer co-production': students' satisfaction surveys.

The study focused on a class of 79 undergraduate students. The course was structured around ten two-hour weekly lectures and assessed on the basis of three separate individual assignments of equivalent length (1,000 words) and similar credit worth (30-30-40 per cent respectively). The three assignments were due at regular intervals, at the end of every month of the three-month period in which the course was run, so as to allow the evaluation of the impact of the feedback provided after each assignment on students' performance on the subsequent assignment.

Table 1 presents some demographics of the sample of the study.

-insert Table 1 here-

Two outcome variables of the service innovation were measured: student satisfaction and student attainment, as quality measures which are important to student as consumers and to professionals, respectively, hence quality measures important to each of the two dominant and overlapping logics in higher education: 'markets' and 'professionalism'. In other words, the study examined not only students' perceptions of whether VF was *deemed to be beneficial* towards their subsequent assignments; but also *evidence of actual incremental benefits* in students' performance from one assignment to the next after VF was provided.

Findings

Table 2 provides descriptive statistics for all variables measured in this study.

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VF Innovation & Student Satisfaction

Student satisfaction was measured in the study through standard end-of-semester course evaluation questionnaires completed by the students attending the course. This questionnaire consisted of a series of questions gauging students' satisfaction with a number of dimensions of the course, ranging from the overall quality of the course, to its scope and structure, the methods utilised for course delivery and assessment, as well as the efficacy of the teaching staff delivering it. We measured student satisfaction with the feedback provided in the course specifically on the basis of the students' responses to two close-ended questions on five-point response scales ranging from 'strongly agree' (1) to 'strongly disagree' (5), relating to their overall satisfaction with the course. In addition, we also analysed thematically (Guest et al. 2011) students' responses to two open-ended questions in the course evaluation questionnaire ("what was good about the course?"; "what could be improved in the course?"), as well as their comments posted on the course's online discussion forum where feedback was specifically discussed, to corroborate the findings of the quantitative analysis.

Students appeared to be highly satisfied both with the quality of the feedback provided in the course and with the overall quality of the course: 100 percent of the students surveyed reported to 'strongly agree' or 'agree' that they were satisfied with the quality of the course (the focus of the first of the two closed-ended questions) and with the feedback provided in it (entailed in the second closed-ended question). Students' comments in the open-ended questions of the course evaluation questionnaire and the course's online discussion forum appear to corroborate this high of level of satisfaction with the type of feedback used in the course (VF), attributing to the personal, more direct nature of the feedback provided; the fact that it explained clearly how the student had addressed the brief of the assignment and, perhaps most importantly, that it clarified the steps which needed to be taken to improve performance in subsequent essays (see Figure 2):

-insert figure 2 here-

Figure 2: Students' views on the VF innovation

On the basis of these comments, as well as of the fact that all comments under the question 'what was good about the course' referred to VF, it is reasonable to infer that the VF innovation appears to have had a positive effect on students' overall

satisfaction with the course. Although this is not possible to be tested statistically given the anonymity of the course evaluation questionnaire and the difficulty to match students' satisfaction with the type of feedback they had received, it seems highly likely that there is a direct link between the satisfaction with the feedback innovation and the very high level of satisfaction with the overall quality of the course.

VF Innovation & Student Attainment

We measured student attainment as the difference in students' performance between the three assignments they had to submit in the course. Students' performance in each assignment was measured on a twenty three-point scale (ranging from 0 to 22), and differences in students' performance (between assignments 1 and 2, and between assignments 2 and 3), were calculated to assess improvements in performance as a result of the feedback students received after each assignment.

To investigate student attainment, we designed a field (also known as quasi or natural) experiment, essentially a manipulation of a social setting (in this case, the form of feedback given to students), but as part of a naturally occurring social arrangement (i.e. a real course which students attend and in which they are assessed). The field experiment essentially takes the logic of the laboratory experiment to the field (Campbell & Stanley, 2015), attempting to maintain the advantage of establishing cause-effect relationships through temporal antecedence, at the same time as increasing the ecological validity and thereby the external validity of the findings (idem.). By allowing the direct manipulation of the cause (in this study, the different forms of feedback) and examining its effect (the observed differences in students' performance) in a natural setting (a real university class), we provide empirical evidence of causality between the variables examined, which also have relevance to the real world setting of the phenomenon of interest.

A two-group control group design (see figure 3) was utilised to examine the effectiveness of the feedback innovation (video feedback). The design involved initially assigning students to two groups: 'test' and 'control'. Both groups are pre-tested, and subsequently post-tested, with only the 'test' group being exposed to the effect of the independent variable of interest (video feedback, in our case). The

preference for this design over others lies in its power to ensure a high level of internal validity.

Figure 3: Two group control group design

-insert Figure 3 here-

The two groups were specifically matched so as to control for two extraneous variables: gender and nationality. These variables were considered to have the potential to affect the relationship between the independent variable (form of feedback) and the dependent variable (student performance) and were therefore controlled in the study.

Phase 1 of the experiment (the pretest phase) consisted of establishing the baseline performance for all students in the course. This was measured as improvement in student performance between the first and the second assignment in the course, after all students had received feedback of traditional form following the completion of the first assignment. Phase 2 of the experiment (the posttest phase) consisted of exposing the students in the sample to the different types of feedback, with those in the experimental (**O**) group receiving video feedback (VF) and those in the control group (**C**) receiving traditional feedback (TF) on their second assignment. This was meant to allow the examination of the effect of VF through two types of comparisons - first, through a between-group comparison between the experimental and the control group in terms of their performance improvement between assignments 2 and 3 (posttest phase), when one group (control) had received TF and the other (experimental) VF for the same assignment; and second, through a within-group comparison of the experimental group's performance improvement between assignments 1 and 2 (pretest phase) when the group had received TF, and its performance improvement between assignments 2 and 3 (posttest phase) when the group had received VF.

The descriptive analysis conducted separately for the two groups reveals some interesting patterns. The control group did not seem to benefit from the provision of TF after the completion of the first assignment, whereas a marginal increase in performance is observed after the provision of TF following the completion of the second assignment (see figure 4.a). As far as the experimental group is concerned,

performance appears to marginally increase from the first assignment to the second after the provision of TF, but a decrease in performance is observed between assignments two and three, following the provision of VF (see figure 4.b). Prima facie, this is contrary to our expectation about the benefits of VF on student performance and attainment. It appears that the small increments in performance observed can only be attributed to the traditional form of feedback; if anything, video feedback seems to have a negative effect on students' subsequent performance.

-insert figure 4.a here-

Figure 4.a: Performance Improvement between Assignments - TF (Control) Group

-insert figure 4.b here-

Figure 4.b: Performance Improvement between Assignments - VF (Experimental) Group

To examine the statistical significance of these patterns, inferential statistics for group differences were run. Given the study's relatively small sample (n=79), the analysis was conducted both at the parametric and at the non-parametric level, to ensure the reliability of the results. The independent samples t-test conducted to compare the performance improvement between assignments 2 and 3 (at the posttest phase) in the experimental group receiving VF (M=-0.31, SD=2.73) and in the control group receiving TF (M=0.11, SD=3.13) indicates that the differences in performance improvement between the two groups are not significant (t=0.64, p=0.53). Similarly, the paired samples t-test run to compare the performance improvement of the experimental group between assignments 1 and 2 when TF was provided (M=0.14, SD=3.21) and between assignments 2 and 3 when VF was provided (M=-0.31, SD=2.73), also indicates insignificant differences. These results are replicated when the non-parametric equivalent tests (the Mann-Witney U test and the Wilcoxon signed ranked test respectively) are run.

This analysis indicates that our simple technological process innovation (VF) had no effect on student attainment. Although there is evidence that it had a positive effect on student satisfaction, this satisfaction does not appear to have translated into incremental benefits in student performance.

Discussion

The innovation in our study fits the category of simple technological process innovation (as defined by de Vries's et al. 2014 and Torugsa and Arundel 2016). What our findings suggest is that an innovation such as ours cannot fulfil all stakeholders' expectations. Thus, the VF innovation was disappointing for the teaching staff trained to employ interventions aimed at enhancing student performance but very well received by students

So what can be done when innovations have both positive and negative effects, albeit for different stakeholder groups in the organisation? The divergent outcomes of our innovation prompted a reflection on innovation typology. In line with Laing's (2003) typology of public services ranging from being consumer-judgement dominant to professional judgement dominant, we put forward a similar distinction between innovation types, which could explain the different outcomes in our study: consumerism-driven and professionalism-driven innovation.

Consumerism-driven innovation

Consumerism in higher education is to be seen in the context of the NPM reforms which have introduced in the public domain the theoretical dichotomy of higher education for public or for private benefit. Certainly the emphasis of NPM on performance indicators such as student satisfaction tilts the balance towards the latter. The focus on individual needs is characteristic to consumerism (Mark 2013), in the sense that, through these lenses, education as private good, benefitting individuals, takes precedence over education as a public good, benefitting the student collective and the community of which they are part. Indeed, when acting upon individual student evaluations of courses and of degrees (e.g. NSS), and judging something to be successful or unsuccessful on the basis of such evaluations, the view that education benefits others beyond the individuals sitting in class is overridden by a preoccupation with the immediate individual needs –essentially understood as 'wants' given their 'immediacy'. This strengthens the view taken is that education is a private good; innovation is then designed and implemented with the aim of increasing the quality of

such 'good' by meeting individual wants; the better innovation does that, the more successful it is deemed. These world views come hand in hand with the decline in professionalism and professional power, as suggested by Sadler (2011), Hill (2011) and Buglear (2011).

Professionalism-driven innovation

Professionals in higher education may argue that there is a discordance between students' desires and their needs (Schwartzman 1995) and that offering service users what they claim they want is not the same as offering them better services (Mark, 2013). Indeed, one may be able to argue that this holds true beyond the higher education sector and beyond public services, too –Henry Ford's famous quote comes to mind in this context: 'If I had asked people what they wanted, they would have said faster horses'.

The view according to which professionals are best equipped to take decisions regarding their clients, in our case teaching staff for their students, runs contrary to that favouring 'what students want' (Mark 2013). By advocating 'needs' over 'wants', professionals' (i.e. the authors') take on the VF innovation was that it was unsuccessful because their performance as outcome of 'improved' feedback, was not actually improved –it actually looked as if it declined somewhat. A professional-driven version of our VF innovation would have been if it emerged from consultations with staff or indeed if it was evidence-based and emerged from research pointing at VF effectiveness.

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Indeed, if there are two leading forces in public sector services: consumers and professionals, with different conceptualisations and sets of expectations for innovative practices, this can explain why it is entirely likely that innovation outcomes are framed differently too. As the two stakeholders are core to the competing institutional frames of 'markets' and 'professionalism', innovation led by one of the two is only likely to succeed fulfilling its own aims which are likely to be at odds to the others' aims and values. This can explain why perceived innovation failure in one aspect of the service (i.e. for one stakeholder) is actually seen as innovation success in another (i.e. for another stakeholder).

Is this to say that the two sets of views, the consumers' and the professionals', shaping the two innovation types we put forward, cannot coincide? The answer to this question in the light of this study's findings is that they cannot if the innovation drivers are divergent to start with. This may appear to be at odds with the co-production literature suggesting quite a different proposition: that the two very different pressure forces in public services' configuration can and should marry their interests when they co-produce the service. However, co-production itself comes in different guises. Indeed Osborne and Strokosch (2013) identified three types of co-production, one of which, consumer co-production, is conceptually compatible with our consumer-led innovation. Consumer co-production posits the service user to be 'a key arbiter of service quality and performance' (ibid.) This does not seem to be at odds with the strand of literature claiming that consumerism in public services emphasizes outcomes of service for the individual rather than the collective, nor does it invalidate education literature linking consumerism with 'education as a private good' (Hensley et al. 2013) or 'private benefit' perspective as well as with over-emphasis on 'student satisfaction' as a measure of success in education, leading to prioritising students' 'wants' ahead of their 'needs' (Rinehart 1993; Mark 2013). Higher education professionals being trained to prioritise attainment are likely to be more concerned about their 'needs' than about 'wants'; this can be at odds with our second category of innovation, professionalism-led innovation.

This is consistent both with Laing's (2003) dichotomy of consumer and professional dominance in public services, and with the idea of an incompatibility between 'markets' and 'professionalism' institutional logics in services with reasonably strong claim for both private (prioritised through the 'market' logic) and social benefits (prioritised by 'professionals'). Our study therefore adds weight to Bode's and colleagues' (2016) findings of service outcomes in health being affected by the 'incompatible prescriptions' of the two sets of logics. It also extends Van den Broek and colleagues' (2014) account of how these logics complicate innovation adoption and implementation, by adding that in higher education, innovation outcomes are also getting 'complicated' –divergent, in fact.

Apart from offering an innovation typology, the paper has also offered insights into innovation failure, answering de Vries and colleagues's (2014) call for research. Our answer to de Vries is that 'failure' is in the eye of the beholder - one stakeholder's innovation failure is another stakeholder's innovation success.

Conclusions

The context of higher education is contentious as series of reform waves across the globe have unravelled conflicting institutional logics dominated by tensions between higher education professionals and consumers. This created an opportunity to investigate the duality of innovation outcomes in services where such tensions are visible. In this study we maintain that divergence in innovation drivers is likely to produce outcomes that are deemed successful only through the same definitional lenses as their drivers. Thus, consumerism-led innovation is likely to be deemed successful by the consumers, whereas professionalism-led innovation, by the professionals. Indeed, the duality of outcomes which we concluded to exist for our technological-process innovation suggests may be due to differences in impetus. The new typology of innovation, consumer and professionalism-driven, respectively, breaks down the complexity said to exist in innovation itself (see Torugsa and Arundel 2016) to two mutually-exclusive categories. This also extends studies claiming that conflicting institutional logics impact on innovation (Van den Broek et al. 2014) first by offering empirical evidence from higher education and, secondly, by extending Van den Broek's (2014) findings on innovation adoption and implementation, to innovation outcomes.

The study's findings need to be considered in light of the experiment's limitations. The students who participated in the study were not randomly allocated to the two groups. Although an attempt was made to control for important extraneous variables (gender and previous educational system), it is possible that other confounding variables, not controlled in this study, may have affected performance change (e.g. various pressures from other courses or from students' extra-curricular activities) alongside feedback type. This threat to internal validity is inherent in quasi-experimental designs, where control over groups is generally limited. On the positive side, the findings are based on data collected from real students in a real university context, which provides some assurance about the ecological and population validity of the findings. The sample size was adequate for a field experiment in higher education, as few Honours classes are larger than 80, but it could be argued that a larger and more diverse sample, with students from more than one institution, could

generate different results. Further field experiments in other real-life contexts would therefore be useful in testing the external validity of our findings. Equally, studies of other public services placed around the centre of Laing's (2003) spectrum of public services driven by either professionals or consumers could provide further evidence of powerful drivers of innovation and whether indeed there is a correspondence between these drivers and the innovation outcomes.

References

Ackroyd, S., 1996. "Organization contra organizations: professions and organizational change in the United Kingdom." *Organization Studies 17* (4): 599-62.

Albury, D. 2005. "Fostering Innovation in Public Service." *Public Money and Management Journa*l 25 (1): 51-56.

Beresford, P., 2001. "Service users, social policy and the future of welfare." *Critical Social Policy 21* (4): 494-512.

Bhatti, Y., Olsen, A.L, and L.H. Pedersen. 2011. "Administrative professionals and the diffusion of innovations: The case of citizen service centres." *Public Administration. 89* (2): 577-594.

Bode, I., Lange, J. and Märker, M., 2016. Caught in organized ambivalence: institutional complexity and its implications in the German hospital sector. *Public Management Review*, pp.1-17.

Brown, L. and Osborne, S.P., 2013. "Risk and innovation: Towards a framework for risk governance in public services." *Public Management Review 15* (2): 186-208.

Buglear, J. 2011. "Grading and academic freedom: an English academic's angle on Hill's contentious triangle." *Quality in Higher Education 17* (1): 101-104.

Campbell, D.T., and J.C. Stanley. 2015. *Experimental and quasi-experimental designs for research*. Ravenio Books.

Chaston, I., 2011. *Public sector management: mission impossible?*. Palgrave Macmillan.

Cucciniello, M., and G. Nasi. 2014. "Evaluation of the Impacts of Innovation in the Health Care Sector: A comparative analysis." *Public Management Review 16* (1): 90-116.

Damanpour, F., and S. Gopalakrishnan. 2001. "The dynamics of the adoption of product and process innovations in organizations." *Journal of Management Studies* 38 (1): 45-65.

De Vries, H.A., V.J.J.M., Bekkers, and L.G. Tummers. 2014. "Innovation in the Public Sector: A Systematic Review and Future Research Agenda." Speyer: EGPA conference.

Denhardt, R. B., and J. V. Denhardt. 2000. "The new public service: Serving rather than steering." *Public administration review 60* (6): 549-559.

Edquist, C., Hommen, L., and M. D. McKelvey. 2001. *Innovation and employment: Process versus product innovation*. Cheltenham: Edward Elgar.

Eom, S.B., Wen, H.J., and N. Ashill. 2006. "The Determinants of Students' Perceived Learning Outcomes and Satisfaction in University Online Education: An Empirical Investigation." *Decision Sciences Journal of Innovative Education 4* (2): 215-235.

Evans, S., Hills, S., and J. Orme. 2012. "Doing more for less? Developing sustainable systems of social care in the context of climate change and public spending cuts." *British Journal of Social Work 42* (4): 744-764.

Flynn, N., 2007. *Public sector management*. Sage.

Friedman, M., 1995. *A monetary and fiscal framework for economic stability*. Macmillan Education UK.

Goode, W.J., 1957. "Community within a community: The professions." *American sociological review 22* (2), pp.194-200.

Gopalakrishnan, S. and P. Bierly. 2001. "Analyzing innovation adoption using a knowledge-based approach." *Journal of Engineering and Technology management 18* (2): 107-130.

Greenwood, R., Díaz, A.M., Li, S.X. and Lorente, J.C., 2010. The multiplicity of institutional logics and the heterogeneity of organizational responses. *Organization Science*, *21*(2), pp.521-539.

Greenwood, R., Raynard, M., Kodeih, F., Micelotta, E.R. and Lounsbury, M., 2011. Institutional complexity and organizational responses. *The Academy of Management Annals*, *5*(1), pp.317-371.

Groundwater-Smith, S. and J. Sachs. 2002. "The activist professional and the reinstatement of trust." *Cambridge Journal of Education 32* (3): 341-358.

Gruening, G. 2001. "Origin and theoretical basis of New Public Management." *International public management journal*" 4 (1): 1-25.

Guest, G., MacQueen, K. M., and E. E. Namey. 2011. *Applied thematic analysis*. Sage.

Hasenfeld, Y., 2000. Social welfare administration and organizational theory. *The handbook of social welfare management*, Sage Thousand Oaks, CA.

Hensley, B., Galilee-Belfer, M., and J. J. Lee. 2013. "What is the greater good? The discourse on public and private roles of higher education in the new economy." *Journal of Higher Education Policy and Management 35* (5): 553-567.

Hill, D., 2011. "A contentious triangle: grading and academic freedom in the academy" *Higher Education Quarterly* 65 (1): 3–11.

Katz, J., 1984. "Why doctors don't disclose uncertainty." Hastings Center Report 14 (1): 35-44.

Knutsson, H., and A. Thomasson. 2014. "Innovation in the Public Procurement Process: A study of the creation of innovation-friendly public procurement." *Public Management Review 16* (2): 242-255.

Kuipers, B. S., Higgs, M. J., Kickert, W. J. M., Tummers, L. G., Grandia, J., and J. Van der Voet. 2014. "The management of change in public organisations: A literature review." *Public Administration 92* (1): 1-20.

Laing, A., 2003. "Marketing in the public sector: Towards a typology of public services." *Marketing Theory 3* (4): 427-445.

Mack, W. R., Green, D., and A. Vedlitz. 2008. "Innovation and implementation in the public sector: An examination of public entrepreneurship." *Review of Policy Research 25* (3): 233-252

March, J.G. and J.P. Olsen. 1996. "Institutional perspectives on political institutions." *Governance 9* (3): 247-264.

Mark, E., 2013. "Student satisfaction and the customer focus in higher education." *Journal of Higher Education Policy and Management 35* (1): 2-10.

McCulloch, A. 2009. "The student as co-producer: Learning from public administration about the student–university relationship." *Studies in Higher Education 34* (2): 171-183.

McDonald, S., and C.J. Oates. 2006. "Sustainability: Consumer perceptions and marketing strategies." *Business Strategy and the Environment 15* (3): 157-170.

McDowell, L., 1995. "The impact of innovative assessment on student learning". *Programmed Learning*, *32*(4): 302-313.

McLaren, R. I. 2002. "Organizing to Serve the Public: Processing or Developing the Clientele?." *International Public Management Review 3* (1): 56-76.

McMillan, J., and G. Cheney. 1996. "The student as consumer: The implications and limitations of a metaphor." Communication Education 45 (1): 1–15.

Melo, A. I., Sarrico, C. S., and Z. Radnor. 2010. "The influence of performance management systems on key actors in universities: the case of an English university." *Public Management Review 12* (2): 233-254.

Miller, H. 1995. *The Management of Changes in Universities: Universities, State and Economy in Australia, Canada and the United Kingdom*, Buckingham: The Society for Research into Higher Education and Open University Press.

Nicol, D.J., and D. Macfarlane-Dick. 2006. "Formative assessment and self-regulated learning: A model and seven principles of good feedback practice." *Studies in higher education 31* (2): 199-218.

Noordegraaf, M., Schneider, M.M.E., Van Rensen, E.L.J. and Boselie, J.P.P.E.F., 2015. Cultural complementarity: reshaping professional and organizational logics in developing frontline medical leadership. *Public Management Review*, pp.1-27.

Norman, D. A., and R. Verganti, 2014. "Incremental and radical innovation: Design research vs. technology and meaning change." *Design Issues 30* (1): 78-96.

Osborne, S. P., and K. Brown. 2005. *Managing Change and Innovation in Public Sector Organisations*. London and New York: Routledge.

Osborne, S., and L. Brown 2011. "Innovation, public policy and public services: the word that would be king?." *Public Administration* 89: 1335–1350.Osborne, S., and K. Strokosch. 2013. "It Takes Two to Tango? Understanding the Co-Production of Public Services by Integrating the Services Management and Public Administration Perspectives." *British Journal of Management* 24(1): 31–47.

Osborne, S. P., Radnor, Z., Kinder, T., and I. Vidal. 2015. "The Service Framework: A Public-service-dominant Approach to Sustainable Public Services." *British Journal of Management* 26 (3): 424-438.

Osborne, S.P., Radnor, Z. and Strokosch, K., 2016. Co-Production and the Co-Creation of Value in Public Services: A suitable case for treatment?. *Public Management Review*, *18*(5): 639-653.

Pintrich, P.R., and A. Zusho. 2002. "*The development of academic self-regulation: The role of cognitive and motivational factors.* A volume in the educational psychology series." Educational Psychology 249–28

Radnor, Z., Osborne, S.P., Kinder, T., and J. Mutton. 2014. "Operationalizing co-production in public services delivery: The contribution of service blueprinting." *Public Management Review 16* (3): 402-423.

Rogers, E.M. (2003). *Diffusion of Innovations*. New York: The Free Press.

Sadler, R. 2011. "Academic freedom, achievement standards and professional identity." *Quality in Higher Education* 17 (1): 85-100.

Salge, T.O. and A Vera. 2012. "Benefiting from public sector innovation: the moderating role of customer and learning orientation." *Public Administration Review 72* (4): 550-559.

Sandel, M.J., 2012. *What money can't buy: the moral limits of markets*. Macmillan.

Schwartzman, R., 1995. "Are students customers? The metaphoric mismatch between management and education." *Education 116* (2): 215.

Thornton, P.H. and Ocasio, W., 2008. Institutional logics. In Greenwood, R., Oliver, C., Suddaby, R. and Sahlin-Andersson, K. eds., *The Sage handbook of organizational institutionalism*. Sage., pp.99-128.

Thornton, P.H., Ocasio, W. and Lounsbury, M., 2012. *The institutional logics perspective: A new approach to culture, structure, and process*. Oxford University Press.

Torugsa, N., and A. Arundel. 2016. "Complexity of Innovation in The Public Sector: A workgroup-level analysis of related factors and outcomes." *Public Management Review* 18(3): 392-416

Trentmann, F. 2007. "Citizenship and consumption." *Journal of Consumer Culture 7* (2): 147-158.

Trischler, J., and D. R. Scott. 2016. "Designing Public Services: The usefulness of three service design methods for identifying user experiences." *Public Management Review*, 18(5): 718-739.

Van den Broek, J., Boselie, P. and Paauwe, J., 2014. Multiple institutional logics in health care:'Productive Ward: releasing time to care'. *Public Management Review*, *16*(1), pp.1-20.

Van der Panne, G., Van Beers, C., and A. Kleinknecht, 2003. "Success and Failure of Innovation: A Literature Review." *International Journal of Innovation Management* 7(3): 309–38.

W. H. Voorberg, V. J. J. M. Bekkers, and L. G. Tummers. 2015 "A Systematic Review of Co-Creation and Co-Production: Embarking on the social innovation journey", *Public Management Review*, 17 (9): 1333-1357.

Tables:

Table 1: Sample Demographics

Gender			Nationality				
Male	Female	**Total**	British	European	Asian (Chinese)	Asian (other)	**Total**
31	48	**79**	29	28	17	5	**79**

Table 2: Descriptive Statistics - All Variables

Variables	**N**	**Min**	**Max**	**Mean**	**S.D.**
Satisfaction with course	79	2	1	1.4	0.5
Satisfaction with feedback	79	2	1	1.5	0.7
Student Performance - Ass 1	79	6	21	15.7	3.6
Student Performance - Ass 2	79	9	21	15.9	2.8
Student Performance - Ass 3	79	6	21	15.8	3.8

Figures:

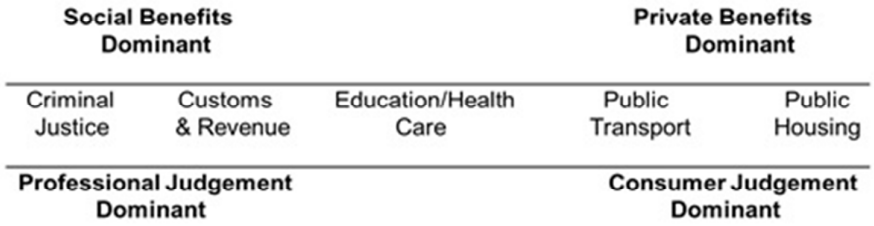

Figure 1: The public services spectrum *(Source: Laing, 2003)*

Figure 2: Students' views on VF innovation

$$\begin{matrix} O_1 & X & O_2 \\ C_1 & & C_2 \end{matrix}$$

where:
O is the group that receives the effect **X** of the independent variable (VF) at different points in time (**1**,**2**);
C is the group that is not subjected to the effect of the independent variable (VF) at the same points in time.

Figure 3: Two Group Control Group Design

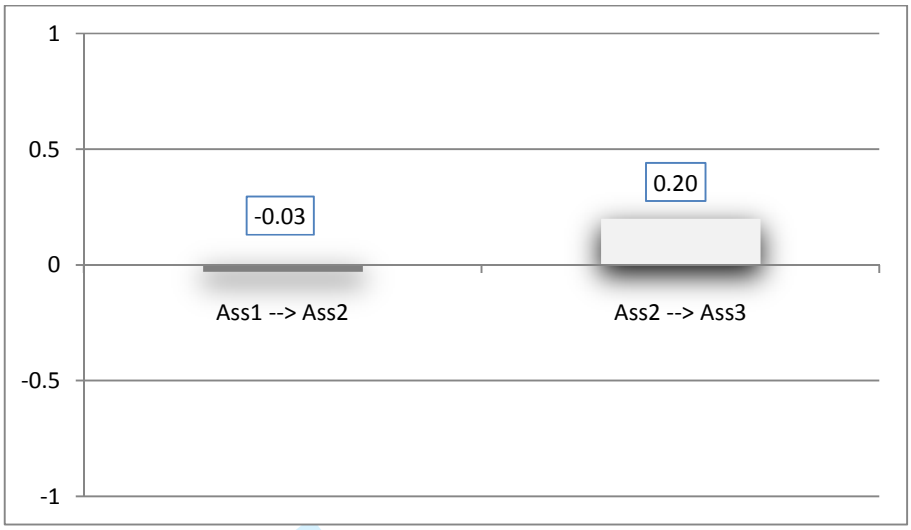

Figure 4.a: Performance Improvement between Assignments - TG (Control) Group

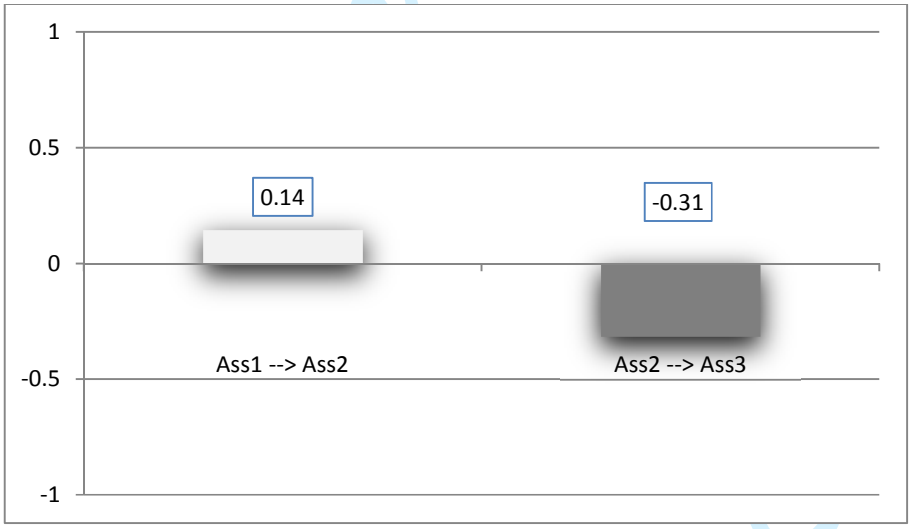

Figure 4.b: Performance Improvement between Assignments - VF (Experim.) Group